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*Fax Transmission
Confirmation by Mail*

10/521 976
DT15 Rec'd PCT/PTO 21 JAN 2005

International Preliminary Examining Authority
European Patent Office
Directorate General 2D-80293
München
Germany

Clamart, 15 October 2004

International Patent Application no. **PCT/EP03/50261**
Applicants: **Services Pétroliers Schlumberger et al.**
Our Ref: **WO 21.1108**

Dear Sirs:

I refer to the written opinion of the International Preliminary Examination Authority dated August 20, 2004.

Claim 1 has been modified to better distinguish it from the cited prior art. The invention as claimed in claim 1 relates to an impeller with the hub and the blades being molded in a plastic material, such that both a spindle and a magnet are trapped inside said hub.

US 3,701,277 discloses a fluid flow meter wherein a fluid chamber receives rotatably a fluid driven metering rotor. Figures 3 and 4 show a hub 48 provided with blades 46 that are molded as one-piece around bearing 42 to confine bearing 42 in place within bore 50 (col.3 lines 22-24). However, the cylindrical post (or spindle) 36 is not molded with the hub since the rotor rotates around said post (col. 2 line 67 to col.3 line 2). Technical feature of said D1 impeller and the impeller according to the invention are such clearly different. Furthermore, the magnet 44 is not situated inside the hub but is rather attached to the exterior of it. This feature renders the impeller according to D1 incompatible with any use in corrosive environment such as hydrocarbon wells.

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From the above, it results that document D1 fails to provide a teaching of all the features of the invention as claimed and consequently, the invention meets the criteria of novelty and inventiveness.

The applicant also requests that the entry for this application concerning the representative be amended as follows:

Raybaud, Hélène
Intellectual Property Law Department
Schlumberger Riboud Product Centre
1, rue Becquerel, BP 202
92142 Clamart
France

The General Power of Attorney in the name of Hélène RAYBAUD is enclosed.
Please confirm this amendment.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Raybaud', with a large, stylized flourish extending from the end of the name.

Hélène RAYBAUD

European Patent Attorney
SRPC
Phone: (33) 1 4537 2133
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CLAIMS (with highlighted changes)

1. Impeller for data acquisition in a flow, made of a plastic material and comprising blades (1) and a hub (2), characterized in that ~~the impeller~~ said blades and hub are is moulded by trapping a spindle (3) and at least one magnet (4) ~~in~~ inside the its hub (2).
2. Impeller according to claim 1, characterized in that the impeller further includes an insert (5) housing the magnet (4).
3. Impeller according to claim 2, characterized that the insert (5) and the spindle (3) are fixed to each other.
4. Impeller according to claim 3, characterized in that the insert (5) is crimped around the spindle (3).
5. Impeller according to claim 4, characterized in that the cross section (7) of the spindle (3) is reduced at the crimping (6).
6. Impeller according to any one of claims 1 to 5, characterized in that it comprises at least one pair of magnets (4) on each side of the spindle (3) that attract each other.
7. Impeller according to any one of claims 1 to 6, characterized in that the plastic material is a polyethercetone type thermoplastic resin.
8. Impeller according to any one of claims 1 to 7, characterized in that the magnet (4) is based on samarium cobalt.
9. Impeller according to any one of claims 1 to 8, characterized in that the spindle (3) is based on tungsten carbide.
10. Impeller according to any one of claims 2 to 9, characterized in that the insert (5) is based on aluminium.
11. Data acquisition instrument in a flow, characterized in that it comprises at least one impeller (11) according to any one of claims 1 to 10.

PATENT COOPERATION TREATY

07/521976

From the INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY **REC'D PCT/EP 21 JAN 2005**

To:

MENES Catherine
ETUDES ET PRODUCTIONS SCHLUMBERGER
1, rue Henri Becquerel
BP 202
F-92142 Clamart Cedex
FRANCE

WL-P.L

PCT

WRITTEN OPINION

(PCT Rule 66)

20 Oct 04 (n)

Date of mailing
(day/month/year)

20.08.2004

Applicant's or agent's file reference
WO 21.1108

WIS

REPLY DUE

within 2 month(s)
from the above date of mailing

International application No.
PCT/EP 03/50261

International filing date (day/month/year)
25.06.2003

Priority date (day/month/year)
23.07.2002

International Patent Classification (IPC) or both national classification and IPC
G01F1/15

Applicant
SERVICES PETROLIERS SCHLUMBERGER et al.

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 23.11.2004

Name and mailing address of the international preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Papantoniou, E

Formalities officer (incl. extension of time limits)

Marnell, J
Telephone No. +49 89 2399-2557



I. Basis of the opinion

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

Description, Pages

1-9 as originally filed

Claims, Numbers

1-11 received on 24.04.2004 with letter of 21.04.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

6. Additional observations, if necessary:

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1
Inventive step (IS)	Claims	1 - 11
Industrial applicability (IA)	Claims	

2. Citations and explanations**see separate sheet**

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following document:

D1: US-A-3 701 277

2. Claim 1

D1, which is considered as the closest prior art, discloses an impeller (40, Fig. 2, or 38, Fig. 4, D1) for data acquisition in a flow (see column 5, lines 26 - 32, D1) made of plastic material (see column 3, lines 22 - 26, D1) and comprising blades (46, Fig. 4, D1) and a hub (48, comprising cylindrical extension 59 and protruberance 64, Fig. 4, see also column 3, last paragraph, D1). The impeller of D1 is molded by trapping a spindle (36, Fig. 4, D1) and a magnet (44, Fig. 4, D1) in its hub (see column 3, lines 22 - 26, and column 4, lines 1 - 10, D1).

Thus the subject matter of present claim 1 is not new (Article 33(2) PCT).

3. Dependent claims 2 - 11 do not contain any features which, in combination with the features of claim 1, meet the requirements of the PCT in respect of inventive step. The features of these claims seems to be obvious constructional alternatives.

PATENT COOPERATION TREATY

10/521976
PCT

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: MENES Catherine ETUDES ET PRODUCTIONS SCHLUMBERGER 1, rue Henri Becquerel BP 202 F-92142 Clamart Cedex FRANCE
--

WRITTEN OPINION

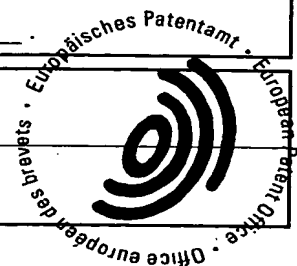
(PCT Rule 66)

Date of mailing <i>(day/month/year)</i>		29/03/2004
Applicant's or agent's file reference WO 21.1108		REPLY DUE within 1 / 00 months/days from the above date of mailing
International application No. PCT/EP03/50261	International filing date <i>(day/month/year)</i> 25/06/2003	Priority date <i>(day/month/year)</i> 23/07/2002
International Patent Classification (IPC) or both national classification and IPC G01F1/115		
Applicant SERVICES PETROLIERS SCHLUMBERGER et al.		

HT- 29 AVRIL 04

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.	
2. This opinion contains indications relating to the following items:	
I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application	3. The applicant is hereby invited to reply to this opinion. When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d). How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9. Also For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6.
If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.	
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 23/11/2004	

Name and mailing address of the IPEA/ <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523656 epmu d Fax: (+49-89) 2399-4465 </div> </div>	Authorized officer Examiner Formalities officer (incl. extension of time limits) Tel. (+49-89) 2399 2828
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I. Basis of the opinion

1. The basis of this written opinion is the application as originally filed.

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability

1. In light of the documents cited in the international search report, it is considered that the invention as defined in at least some of the claims does not appear to meet the criteria mentioned in Article 33(1) PCT, i.e. does not appear to be novel and/or to involve an inventive step (see international search report, in particular the documents cited X and/or Y and corresponding claims references).
2. If amendments are filed, the applicant should comply with the requirements of Rule 66.8 PCT and indicate the basis of the amendments in the documents of the application as originally filed (Article 34 (2) (b) PCT) otherwise these amendments may not be taken into consideration for the establishment of the international preliminary examination report. The attention of the applicant is drawn to the fact that if the application contains an unnecessary plurality of independent claims, no examination of any of the claims will be carried out.

NB: Should the applicant decide to request detailed substantive examination, then an international preliminary examination report will normally be established directly. Exceptionally the examiner may draw up a second written opinion, should this be explicitly requested.